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TOWARDS A FRAMEWORK FOR EFFECTIVE USER PARTICIPATION IN NONPROFIT COMMUNITY CONTEXTS: BEYOND USER INVOLVEMENT

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ABSTRACT

In recent years, IS researchers have begun to examine the broader societal impacts of information systems (IS) and technologies. As such, researchers have sought out various approaches to develop the technological capacity of nonprofit and community-based organizations (NCOs). The concept of user participation is gaining increasing attention as a malleable approach to achieve this goal. This paper develops a strategic framework that theorizes user participation in nonprofit and community-based contexts. We conclude with implications for research and practice.

Keywords

Participatory design, nonprofits, user participation, user involvement

INTRODUCTION

A recent trend in IS research concerns the broader societal impacts of information systems (IS) and technologies (Cushman and McLean 2008; Po-An Hsieh et al. 2008; Zheng and Walsham 2008). This trend is tied to the realization that inequality based on technology access and use is a major ethical and social concern in a digital society. While it is clear that private and public sector organizations are benefiting from well-developed information technology (IT) infrastructures, the literature indicates that nonprofit and community-based organizations (NCOs) are hampered by scarce resources, lack of in-house IT staff, and poor technology planning and management (Carroll and Rosson 2007; Kirschenbaum and Kunamneni 2002; Kvasny and Lee 2009; McPhail et al. 1998; Trigg 2000).

In order to ameliorate these disparities, scholars have called for more research that seeks to promote greater social and digital inclusion (Cushman and McLean 2008). However, a central challenge is how to enhance the technological capacity of NCOs in order to enable them to achieve their future vision and goals. In the context of NCOs, user participation seems like an obvious strategy to engage users in the design process.

The concept of participation has long been a central construct in IS theorizing on system design. Over five decades of empirical and theoretical research has linked participation and the closely related concept of user involvement to systems success (Ives and Olson 1984; Kling 1977; Markus and Mao 2004; Newman and Noble 1990; Swanson 1974). Unfortunately, what is meant by participation is often vague. At one extreme users are involved symbolically as objects of the study, whereas at the other end of the spectrum users are substantively involved throughout the development process.

In this paper, we derive a framework that theorizes user participation in NCO settings. In particular, our model describes an approach aimed at developing the socio-technical competencies of NCOs in order to simultaneously strengthen their organizational and technological capacity. Two contributions to the literature are made. The first contribution is to IS participation theory. We further extend IS participation theory by incorporating the principles and practices that are central to the Scandinavian trade-unionist approach. The second contribution is to research and practice. We provide a framework that researchers and practitioners can use to involve resource-weak NCOs in the development process.

BACKGROUND

In this section we provide a brief overview of the NCO context, followed by on overview of IS participation theory. This is followed by a methodological description of PD. In the following section, we integrate the principles and practices of PD into IS participation theory in order to derive a framework that is suitable for user-led systems development in NCO settings.

The Nonprofit community Context

According to Peter Drucker (1992), three functional sectors are necessary for a cohesive digital society: the private (business), the public sector (government), and the social sector (non-profit). Therefore, it is increasingly important for all organizations to have well-developed information technology (IT) infrastructures – shared technology resources that provide the platform for the organization's information systems and technologies. While private and public sector organizations are benefiting from well-developed and coherent IT infrastructures, NCOs are consistently hampered by scarce resources, lack of in-house IT staff, and poor technology planning and management (Carroll and Rosson 2007; Kirschenbaum and Kunamneni 2002; Kvasny and Lee 2009; McPhail et al. 1998; Trigg 2000). This phenomenon has been coined the *organizational divide*. The organizational divide is defined as the inequalities between organizations in society that can effectively use information systems and technologies to support their mission and those that cannot (Kirschenbaum and Kunamneni 2002; Robertson 2001).

In the emerging digital society, corporations, foundations, and government agencies that provide funding to NCOs are increasingly expecting NCOs to adopt and use advanced information systems and technologies to support the delivery, coordination, accounting, and improvement of their programs and services. As a result, the survival of NCOs is in part dependent of their ability to adapt to the digital society. The key question then is how to solve the technology transition puzzle. As a starting point, a technology audit of NCOs identified technology cultures as an impediment to the adoption and use of mission-driven technology (Shorters 1999). In order to transition an organization from viewing technology as *unnecessary* to *strategic advantage,* Shorters (1999) proposed an approach that would involve and benefit NCOs by helping them understand the potential benefits of mission-driven technology. Therefore, emphasis has shifted from solely building the technological capacity to simultaneously building both the organizational and technology capacity of NCOs. One way to build the self-help competencies of NCOs is to substantially involve them in the design process. In order to theorize the anticipated benefits of substantial participation (i.e., involvement), we draw on IS participation theory.

IS Participation Theory

According to traditional IS participation theory, enhanced systems success is posited to result from three theoretical explanations: the creation of psychological buy-in among participants; (2) the improvement of systems quality by getting the requirements right, and (3) the emergence of relationships among developers and users that shape development outcomes (Markus and Mao 2004). Markus and Mao (2004) revised the traditional IS theory of participation by incorporating the normative literature that exists at the boundary of IS. Informed by participatory action research, the normative literature consists of the Scandinavian (Ehn and Kyng 1987), UK (Mumford and Weir 1979), and North American (Bødker 1991; Schuler and Namioka 1993) approaches to PD.

The revised theoretical model consists of an articulation of the relationship between the actors, participation activities, context, and outcomes. Solutions development and systems implementation success is posited to result from the quality of participation activities, and the quality of social interaction between the designers and users. Although the model addresses the challenges of changing contexts in traditional IS research, the model does not take into consideration the realities that exist in NCO settings. In order to address this limitation, we draw on the Scandinavian trade-unionist approach or PD.

The methodology of Participatory Design

PD is defined as a diverse set of principles and practices aimed at designing information systems, applications, and infrastructures in which designers and users work together in mutually beneficial ways (Greenbaum and Kyng 1991; Schuler and Namioka 1993). PD is different from other approaches in that users have considerable influence in decision making. In addition, there is a central focus on mutual learning between designers and users. Designers learn about users and their everyday work practices. Similarly, users learn about technological possibilities by taking an active part in the design process.

From a lifecycle perspective, three stages are common to most PD research: (1) initial exploration of work; (2) discovery process; and (3) prototyping (Spinuzzi 2005). Recently, a four phase ethnographically-inspired model was derived from extensive fieldwork with 11 NCOs: (1) identifying IT needs; (2) organizing for IT change; (3) learning new IT skills; and (4) creating and sustaining intrinsic motivation (Carroll and Rosson 2007).

PD consists of tools and techniques that have been successfully employed in NCO settings (Carroll and Rosson 2007; McPhail et al. 1998; Merkel et al. 2004). For example, Kyng (1988) derived an approach for resources-weak organizations which consisted of four strategies: (1) sharing stories and conducting workplace visits aimed at establishing the possibility of alternatives; (2) finding models for local work; (3) using future workshops to help people envision new and different uses of technology; and (4) using mockups to support the concrete design of systems.

Merkel et al. (2007) described a three-step process that was derived from the experiences of working with 11 NCOs: (1) understanding the context of use for NCOs; (2) scaffolding problem solving; and (3) encouraging long-term changes in technology management practices. In another example, McPhail et al. (1998) used a future workshop and demos in order to elicit user participation in a NCO.

Problems and Opportunities

Despite the value of its emancipatory and democratic principles, PD is a diverse methodology in which there is no single definition (Muller 2002; Muller et al. 1997; Sanoff 2007). As a result, PD lacks a strong methodological explanation, and implementation varies by attention to quality control and rigor. In order to address this shortcoming, Merkel et al. (2007) emphasized the establishment of trustworthiness. Triangulation and member checking are used to achieve this goal. Triangulation involves the use of multiple sources of data and data collection methods. Member checking is used throughout the develop lifecycle in order to limit potential biases. Additionally, Spinuzzi (2005) emphasized three additional criteria that are related to internal integrity: (1) quality of life for workers; (2) collaborative development; and (3) iterative process.

CONCEPTUAL FRAMEWORK

In this section we develop a conceptual framework that theorizes the conditions under which PD interventions are more likely to strengthen the organizational and technological capacity of NCOs (see Figure 1). These organizations tend to be disempowered and unable to participate in the digital society. Therefore, our model includes functional and democratic empowerment as outcome variables.
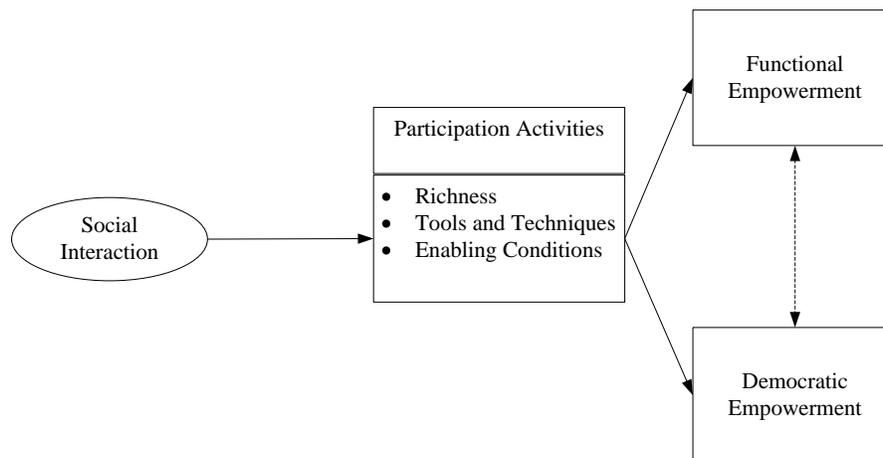
Figure 1: User Participation in Nonprofit Community Contexts

Outcomes: Functional and Democratic Empowerment

PD is based on the Marxist commitment of democratically empowering workers and fostering democracy. Therefore, the dependent variables address the quality of life for workers criterion (Spinuzzi 2005). Empowerment, which is a form of self-actualization, is based on the extent to which participants are able to take control of their organizational and technological futures. Functional empowerment (i.e., change management) is defined as the extent to which users' socio-technical competencies are enhanced. Functional empowerment relates to the users' ability to pursue their activities with greater ease. Democratic empowerment is defined as the extent to which users are prepared to take ownership of the technology (i.e. change outcome). Democratic empowerment relates to the socio-technical competencies that users acquire through their direct participation in the development process. Functional and democratic empowerment is enhanced through structured participation activities that support reflection and mutual learning (Dewey 1933).

> *Proposition 1*: *Participation activities are related to functional and democratic empowerment.*

Social Interaction

Social interaction is defined as the quality of the interaction between the designers and users. Involvement in PD requires a significant amount of social interaction between the designers and users. Therefore, the quality and frequency of social interaction is an antecedent to functional and democratic empowerment.

In order to address the second criterion, we emphasize collaborative development, which involves the participants as co-researchers and co-developers (Spinuzzi 2005). The participants' world consists of the end-users of the systems and their stakeholders. Because of resource limitations in NCOs, the designers' world consists of the various roles that designers generally occupy. The primary roles consist of change agent, facilitator, or consultant that introduce changes into an environment and studies the effects. However, we emphasize the role of "bard" in NCO settings. A bard is an outsider who summarizes and celebrates the accomplishments of the organization, encourages reflection on their current practices, and provokes an organization to consider how potential technology changes may facilitate their future vision and goals (Carroll and Rosson 2006).

The relationship between the participants and designers is emergent in the sense that the relationship requires constant social negotiation and consensus building (Truex et al. 1999). Successful outcomes are posited to result from the emergence of relationships that bridge the gap between the users' and participants' worlds. Studies have shown that negative outcomes result from poor quality relationships between the designers and users (Urquhart 2001). Therefore, we posit that the quality of the social interaction between the designers and participants is related to functional and democratic empowerment.

> *Proposition 2*: *The quality of the designers and participants social interaction is related to functional and democratic empowerment.*

Participation Activities

IS research makes a distinction between user involvement (the psychological experience of users) and user participation activities (what users do when actually participating). Our model consists of three dimensions of participation: richness of the participation, tools and techniques, and enabling conditions.

Richness of Participation

Richness of participation is defined as the extent to which participants are likely to experience the activities as personally meaningful and consequential. In early writings on user-centered design, Kling (1977) made a distinction between symbolic participation and substantive participation. Alternatively, Mumford (1983) delineated three types of user participation: consultative, representative, and consensus.

Consultative participation is on the lowest end of the spectrum in terms of user participation. Representative participation involves user representatives in the actual design formulation and decision making. In consensus participation, actual users are directly involved throughout the design process and have conservable decision-making authority. Evidence suggests that continual participation at each phase of the design process and the ability to revisit stages enhances the success of the system (Muller et al. 1997). Therefore, consensus and continual participation provides a much more meaningful experience than participating as a source of data and observation.

> *Proposition 3*: *Participation richness is related to functional and democratic empowerment.*

Tools and Techniques

PD consists of a wide range of tools and techniques (Muller et al. 1997). These tools and techniques are specific in terms of whether they are used in the users' world, in the designers' world, or in the third space that exists between the two worlds (Muller et al. 1997). Based on empirical research, those methods and techniques that are used in the intermediate world that seeks to bridge the space between the designers and participants are more appropriate for use in NCO settings (Muller 2002; Muller et al. 1997).

For example, designers can employ scenario-based design (Carroll 2000; Rosson and Carroll 2002) throughout the systems development life cycle. As an alternative or complimentary approach, designers can employ future workshops (Kensing 1987) which are used in the problem identification and clarification, and requirements and analysis phases. Scenarios and future workshops support critical reflection throughout the develop lifecycle, which empowers users. Benefits include developing group insight, obtaining a consensus view, and facilitating IT learning in NCOs (Farooq et al. 2007; McPhail et al. 1998). The cyclical nature of the participation activities support the third criterion, which is an iterative process (Spinuzzi 2005).

> *Proposition 4*: *The selection of methods is related to functional and democratic empowerment.*

Enabling Conditions

The final dimension consists of enabling or constraining conditions that designers can sometime manipulate to increase participation effectiveness such as location, resource limitations, and technology culture. Muller and Colleagues (Muller 2002; Muller et al. 1997) suggest that the majority of the activities take place in neutral settings. In this hybrid space the

assumptions of the designers and users are open to question, challenge, and reinterpretation. In terms of the scarcity of resources, the emergence of Web 2.0 tools provide flexible and inexpensive environments that are suitable for appropriation by NCOs.

As it relates to technology cultures, Shorters (1999) illuminated four different technology cultures that are present within the nonprofit sector: unnecessary, necessary evil, necessary good, and strategic advantage. The designer's task is to ensure that organizations are in the strategic advantage category, which is based on the organization's belief that technology can provide them with a strategic advantage. This task can be accomplished through the selection and use of appropriate tools and techniques.

> *Proposition 5*: *The designer's manipulation of the enabling conditions is related to functional and democratic empowerment.*

CONCLUSION

NCOs exist all around us in the broader communities in which we live and work, making their study especially relevant. However, NCOs tend to be disenfranchised with respect to their strategic use of technology. To counteract the inequities that currently exist in society; we have presented a conceptual framework that theorizes the benefits of substantial and continual user participation in NCO contexts. Our framework is informed by the democratic and emancipatory principles of PD, which aims to support empowerment and user participation. This framework can be used by researchers and practitioners who are seeking to engage NCOs in design partnerships. Finally, we articulated a set of propositions that will be investigated in future research through ethnographies, surveys, and case studies.

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